

looms larger than it should, and there is a tendency to ignore methods not practised there. Thus, in a general account of coffee, the "dry" method of preparation should certainly be described, considering the extent to which it is employed in Brazil, by far the greatest coffee-producing country. The Brazilian method of preparing Para rubber is not referred to. Similarly, very scanty attention is given to crops, e.g. maize, Guinea corn or sorghum, and cassava, to confine attention to food-stuffs which are very important over large areas of the tropics, although, it is true, but little grown in Ceylon. In some cases condensation has been carried so far as to render the account quite inadequate, and sometimes even misleading. To give one instance, in the chapter on rubber we find: "Lagos rubber, *Funtumia elastica*, has been a little planted in some of the British West Indian and West African colonies, but as yet no rubber has been exported."

be quoted, and they detract considerably from what is otherwise a good, though somewhat restricted, survey of tropical agricultural industries.

Part iii., on "Agriculture in the Tropics (General)," and part iv., on the "Organisation of Agriculture," are distinctly interesting and valuable. They present the chief economic problems, including agricultural education and cooperative movements, with which the planters, administrative officers, and others have to deal, and suggest general lines along which the development of a tropical agricultural country should proceed to secure the best permanent advantage to both peasant and capitalist planter. These sections are well worth the careful study of all engaged in practically dealing with, or merely interested in, the broad administrative problems of the tropics. Such study should prevent much loss of time and money from misdirected efforts,



Making Copra in Samoa. From "Agriculture in the Tropics."

From this, the sole reference to this plant, no one would realise that the tree is wild over wide areas of West Africa, and yields large quantities of exported rubber, and, moreover, that it is also wild in Uganda, whence a moderate quantity of excellent rubber has recently come on the market.

Striking examples of a lack of perspective are met with in the very brief notes on dyes and tans. In the former, after describing indigo and annatto, we find a list of "other dye stuffs of more or less local importance," in which occurs logwood! Cutch, from *Acacia Catechu*, is described as "perhaps the most important" of tanning substances, but why even in the brief list of other tans is there no mention of myrabolans (fruits of *Terminalia*, spp.)? Both are Indian tans, and in 1908, whilst the export of cutch was worth approximately 100,000l., that of myrabolans was nearly 400,000l. Several other similar instances might

and help to secure that continuity of policy without which even the best intentioned efforts come to naught. A book which presents these fundamental problems, and deals with them so well as Dr. Willis has done here, is a noteworthy addition to the literature of tropical agriculture. W. G. F.

REFORM OF THE CALENDAR.

SEÑOR C. A. HESSE, of Iquique, Peru, sends us an ingenious scheme for what he calls the reform of the calendar. It has, however, nothing to do with the Julian or Gregorian styles, or any modification of the latter, now used in all Christian countries except those of the Oriental Church, which still follow the Julian usage. But it is a plan, similar to one put forth in England a year or two ago, for making the days of the week and month correspond

throughout the year. This he does by dividing the year into 13 months of 28 days (or 4 weeks) each; and as that would reduce the whole year to 364 days, he proposes two intercalations, one of a zero day, and another of what he calls a double zero day.

Plans of this kind would, if adopted, cause more trouble than they would save, besides interfering with the perpetual succession of the seventh day of the week. In endeavouring to adjust the ecclesiastical calendar according to his system, Señor Hesse gives at the end a table of the dates of the feasts in 1912 as now regulated and as proposed by him. They are, indeed, inadmissible. As to taking Easter a week later, that is of less consequence; but he puts Pentecost (Whit Sunday) 54 days after Easter and 13 days after Ascension Day!

It is to be hoped that some day the whole Christian church will come to an agreement to take Easter always on the first or second Sunday in April, adjusting the other movable feasts thereby. But as regards the days of the week and year, it would be a great mistake to tinker with them; and so-called zero days would produce most serious confusion.

It is a remarkable thing that the apocalyptic book of Enoch makes the year contain only 364 days, though it must have been known, according to any probable date of the composition of even its first part, that the integral number was 365. That, not being a multiple of 52, we must adjust the days of the week as we can. To increase the number of the months would be deplorable from many points of view. It would have been better if Julius Cæsar's first proposal about the respective lengths of the twelve months had been retained rather than the subsequent modification of Augustus; but to alter this now would give much more trouble than it would save. W. T. LYNN.

NOTES.

THE paper by Captain Tilho on the French mission to Lake Chad, which was read before the Royal Geographical Society on Monday evening, February 21, contained much interesting information about the hydrography of the Chad region. On arriving in the vicinity of the lake in 1908, the mission learned that caravans were crossing on dry land the northern portion of the lake-bed, where in 1904 Captain Tilho had navigated an open expanse of water; that the central portion was merely a marsh; but that in the southern portion channels which had formerly been closed to navigation had again become practicable. Summing up the results of the mission's investigations, Captain Tilho described Lake Chad as a closed depression about four-fifths the size of Belgium, entirely independent of the rivers that flow into the Atlantic and the Mediterranean. The average depth of the lake is 5 feet. Its shores are ill-defined, the slope being so slight that small variations in the level suffice either to submerge or to leave bare large areas of the lake-bed. Even the wind may produce these results. The waters of the lake are renewed for about a tenth part by the rainfall, and for about nine-tenths by the rivers that drain into the lake, principally the Shari and the Komadugu. Losses are due to evaporation and infiltration. In the present state of knowledge it is impossible to formulate a law governing the rise and fall of the lake, but there is no reason to suppose that it is likely to disappear. A problem which has exercised the minds of geographers is whether Lake Chad occupies the lowest part of the immense plain of which it is approximately the centre. The observations of the French mission show that to the north-east of the lake there is a series of plains of considerably lower alti-

tude. The country falls about 200 feet in a distance of less than 250 miles.

THE Rev. G. F. Whidborne, who died on February 14, aged sixty-four, was an enthusiastic amateur geologist who endeared himself to a large circle of friends. Since 1876 he had been a Fellow of the Geological Society, and for many years, as a member of council, he took an active interest in the society's affairs. He was also a member of council of the Palæontographical Society, and was several times elected a vice-president. He was interested in many lines of geological research, but devoted himself especially to the study of fossil Invertebrata. In 1883 he contributed to the Geological Society's Journal a paper on new Mollusca from the Inferior Oolite, and between the years 1888 and 1898 he published three volumes on the Devonian fauna of the south of England, included in the monographs of the Palæontographical Society. In later years he was also attracted to more general questions, and became an active member of the Victoria Institute, to the journal of which he contributed two papers. Mr. Whidborne's genial presence was always welcomed at the scientific meetings he attended, and his memory will be cherished by all who had the good fortune to be associated with him.

THE late Mr. R. Marcus Gunn, the eminent ophthalmic surgeon, devoted much of the leisure of his vacations to making a collection of fossils, which he left to the British Museum (Natural History). He worked especially in the Jurassic formations of Sutherland, and at the time of his death was engaged in the preparation of a memoir on the Jurassic flora of Brora, in collaboration with Prof. A. C. Seward, who is now completing the undertaking. He obtained many fish-remains, Mollusca, and other fossils, which form a valuable addition to the national collection. Mr. Gunn also collected from the Old Red Sandstone of Caithness, and will always be remembered for his discovery of the problematical fossil fish *Palæospondylus gunni*, which was named after him by Dr. Traquair.

THE following awards of the Mary Kingsley medal have been made by the Liverpool School of Tropical Medicine:—Mrs. Pinnock, in recognition of the services rendered to the cause of tropical medicine and sanitation by her brother, the late Sir Alfred Jones, founder and first chairman of the school; Mr. W. Adamson and Prof. W. Carter, for assistance rendered in the foundation of the school; Prince Auguste d'Arenberg, president of the Suez Canal Company, for his campaign against malaria at Ismailia; Sir William Macgregor, Governor of Queensland, for his services to sanitation and tropical medicine while Governor of Lagos; Surgeon-General Walter Wyman, head of the Marine Hospital Service of the United States, for the organisation which he has given to the service under him and for the manner in which he has always supported scientific principles in public sanitation; Sir Alfred Keogh, recently Director-General of the Royal Army Medical Corps, for the organisation which he has given to the service under him and for the manner in which he has always supported scientific principles in public sanitation. The medal for valuable contributions to the scientific and educational side of tropical medicine has been awarded to Prof. R. Blanchard, Paris; Dr. A. Breinl, director of the Tropical Diseases Institute in Queensland; Prof. A. Celli, Rome; Dr. C. W. Daniels, director of the London School of Tropical Medicine; Surgeon-Colonel King, Indian Medical Service; Prof. Nocht, director of the Hamburg School of Tropical Medicine; Prof. G. H. F. Nuttall,